

ARTICLE APPEARED
ON PAGE C-2WASHINGTON POST
7 January 1985

Exploiting 'Open Sources'

HOW CAN INFORMATION about U.S. spy satellite programs be deduced from open sources? Here is one example of how analysts proceed.

We know from data published by the British that the United States has a number of intelligence satellites flying in an odd elliptical orbit, passing as close as 200 miles to Earth at its low point, and as high as 24,000 miles. From Air Force testimony to Congress and articles in specialized journals, including *Aviation Week*, we have learned that the Satellite Data System (SDS) uses this orbit. SDS satellites, we know from the same sources, have multiple functions; they serve as relay stations for the transmission of photographic images from reconnaissance satellites, and act as a communications link for Strategic Air Command bombers flying over the poles, and between the Air Force Satellite Test Center in Sunnyvale, Calif., and other Air Force installations tracking U.S. military satellites.

In the vicinity of its most distant point from earth, SDS hovers over the northern Soviet Union and Arctic for about eight hours in every orbit. At those times it is ideally suited to receive and transmit photos from the KH-11 photo reconnaissance satellite flying over Russia, or to communicate with bombers flying over the Arctic.

However, we also know that something other than SDS satellites are also using this elliptical orbit. The British Royal Aircraft Establishment (RAE) publishes an unclassified description of all satellites launched, giving their orbits. Between 1975 and 1978, according to this British data, the United States launched five military spacecraft into that elliptical orbit.

The RAE assumed that they were all SDS satellites. But in 1979, the Air Force director of command, control and communications told a congressional committee that the fourth and fifth SDS satellites were then being *manufactured*. Obviously, those fourth and fifth satellites could not have been launched before 1978. A declassified Defense Department document confirms the conclusion that some other type of satellite was flying this same orbit. It gives three SDS launch dates in the '75-'78 period, meaning the other two were something else.

The obvious conclusion is that these were a SIGINT spacecraft. Only two U.S. satellite programs are kept totally secret; the SIGINT and photo reconnaissance programs. Hence any secret satellite must be one of the two (unless there is some exotic third type of which we know absolutely nothing). A photographic reconnaissance mission makes no sense in light of the unusual orbital parameters — pictures taken from 24,000 miles over the Soviet Union and the Arctic would be valueless, particularly when high-quality pictures of the same areas could be taken by KH-11 satellites passing just 150 miles overhead.

On the other hand, a SIGINT satellite that hovered for eight hours over those areas could collect signals from Soviet bomber bases, operating aircraft and the Murmansk naval base. So it stands to reason that at least two SIGINT satellites have been launched into this orbit.

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